

CATALYST ASSEMBLY

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ABSTRACT OF THE DISCLOSURE

A catalyst assembly comprising a substrate, nanofilaments which have a nanometer-size diameter and are formed on the substrate, and particles which have a nanometer-size diameter, at least one of the nanofilaments and the particles having a catalytic function, is provided to use a catalyst more efficiently and to provide a catalytic function more efficiently. Interstices between the nanofilaments serve as distribution channels of a reactive gas, and the reactive gas spreads sufficiently not only around the ends of nanofilaments but also inside a catalyst assembly. A combination of nanofilaments and particles enables dispersion of a catalyst at a distance of not more than about 100 nanometers.